Volume 14 - Issue 2

THE AMBASSADOR

Bringing Newfoundland & Labrador to the World

In This Issue...

Read about innovative Newfoundland and Labrador companies who are making their mark on the world.

Discover how ocean wave energy is turned into clean, pumped sea water.

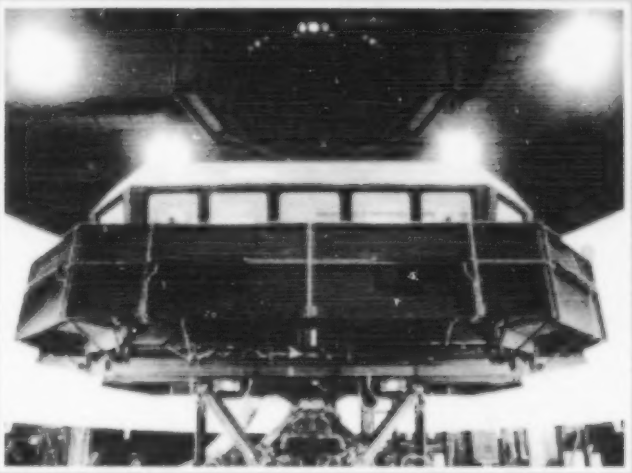
Did You Know

Two Newfoundland and Labrador business people, Danny Tuff, President and CEO of Blue Line Innovations, and Judy Sparks-Giannou, President of Maxim Vacations, have been named to Progress Magazine's 25 people to watch list.

The satellite-based monitoring of river ice on the Exploits River is provided by C-CORE under the Polar View initiative.

ACE Memorial, a group of business students from Memorial University of Newfoundland, took the top prize at the 2006 Students in Free Enterprise (SIFE) competition in Toronto. The team beat 43 other groups from across the country and will represent Canada at the SIFE World Cup in Paris in September.

Icebergs can be tracked? Check out www.icebergfinder.com. It uses satellite technology to map iceberg journeys and will also send weekly email updates.



Innovative companies MARKETING NEWFOUNDLAND AND LABRADOR TO THE WORLD

When it comes to being first in North America, Newfoundland and Labrador innovators are showing it's not just about the time zone.

When two young entrepreneurs in Newfoundland and Labrador saw an opportunity in wireless communication they went for it. They developed a low cost way for people to securely access their email on their cell phones. Now, the company that Trevor Adey and Rod White started, Consilient, has offices in San Francisco, Singapore, Vancouver and Ottawa. But their corporate operations, R&D and product testing all take place in St. John's.

Meanwhile, financial institutions across Canada and the United States rely on a Mount Pearl business to keep their money safe. Preventing money laundering has always been a problem, and since 9/11 it's received even more attention because it can potentially be used to funnel funds to terrorist organizations. The robotics background of Verafin's founders, graduates of the engineering faculty of Memorial University of Newfoundland, helped them develop a non-standard AI technology that provides businesses with a sophisticated anti-money laundering and fraud detection system.

Parents have complained about kids leaving the lights on since Edison invented the light bulb. Danny Tuff's dad thought his teenagers might be better at conserving electricity if they could see the dollar amounts they were spending. Now Danny's company, Blue Line Innovations, has landed a $4.5 million contract with Ontario's Hydro One to install Power Cost Monitors in 30,000 homes. The device can potentially reduce power consumption by 20 per cent simply by tracking and displaying electrical usage costs. The St. John's-based company hopes to someday have the monitors in every home in Canada.

"Our goal is to improve the safety of people who work at sea," says Memorial University engineering professor Brian Veitch. What started as a research project investigating evacuation training in simulated conditions proved to be even more successful than expected. The result is VMT, Virtual Marine Technology, a company that aims to provide virtual operating environments for training personnel on small vessels such as lifeboats and fast rescue crafts to an international clientele. (photo above)

Natural Newfoundland Nutraceuticals Inc. (NNNI) has completed a one-year pilot phase project to adopt its leading edge technologies to a number of berry crops to create and produce an array of customized food and natural health products. The results of the pilot phase have been very encouraging and as a result NNNI are planning to take a number of products to commercialization. These plans include the construction of a production facility in Whitbourne valued at $5 million. This facility will eventually employ up to 60 people and will create potential for farm expansion and diversification opportunities in the agriculture industry to meet the supply needs of NNNI. "We have tremendous potential," says Dr. Rodrigues, President of NNNI. "We can do anything in rural Newfoundland and Labrador. We just need to believe in ourselves."

As customers around the globe are discovering, innovation in Newfoundland and Labrador is something worth believing in.

www.consilient.com
www.verafin.com
www.bluelineinnovations.com
www.virtualmarinetechnology.com
www.nnni.ca

When the going gets rough...
SERT professionals get going!

www.mi.mun.ca/sert/

One of Canada's newest centres for safety and emergency response training is gaining a reputation as one of the country's premier firefighting training facilities. But it's not stopping there.

Located in Stephenville, on the west coast of Newfoundland, the Safety and Emergency Response Training (SERT) Centre has certified about 1500 students since its doors opened in the fall of 2003. SERT offers students top-of-the-line courses in aviation firefighting and rescue, industrial safety and emergency response training, and firefighting (including hazardous incident investigation and high angle rescue), as well as the fishing industry and small boat safety training. Now the centre has set its sights on expanding its capabilities by offering courses not otherwise available in Atlantic Canada.

The SERT Centre is a timely response to increasing industry demands for internationally accredited and specialized safety and emergency response training in key sectors such as fish harvesting, marine transportation, aviation, and oil and gas within Newfoundland and Labrador as well as Atlantic Canada.

Operated as a satellite campus of the Marine Institute's popular Offshore Safety and Survival Centre (OSSC) in St. John's, the SERT Centre is an alliance between the Marine Institute and the Stephenville Airport Corporation. This partnership offers clients the proven management training capabilities of the Marine Institute with access to Canada's most modern aviation firefighting training facility, including a state-of-the-art, air-crash training field with a large aircraft mock-up.

"Being part of the Marine Institute, North America's most comprehensive college dedicated to marine industries and an ISO 9001 registered training institution, as well as being part of Memorial University, brings a lot of strength in terms of our ability to develop programs and courses," says OSSC and SERT Director, Bob Rutherford. "It gives us a broad spectrum capability which is not widely accessible elsewhere."

Demand for the centre's programs is growing. In response to an overflowing waiting list for its 26-week Firefighting and Recruitment Program, for example, a fourth annual intake of students will be added. Meanwhile, the potential for offering additional programs such as Advanced Marine Firefighting and Marine Survival courses (currently offered by the OSSC) and a Fire Investigation course, are also being explored.

Interest in the SERT Centre is not about to cool down. "We are studying the potential for a firefighting academy," says an enthusiastic Rutherford. "We envisage developing the program to allow a career progression. It exists in other countries but doesn't exist to any formalized extent in Canada."

Photo: ESA

On top of the world:
C-CORE's innovative engineering team leads international cohort

www.c-core.ca

St. John's-based C-CORE recently crowned its 30-year experience with a multi-million dollar contract to lead a European Space Agency (ESA) initiative, Polar View, into one of the world's last, and harshest, frontiers.

C-CORE, a global not-for-profit corporation and provider of innovative engineering solutions to natural resource sector clients, is heading up Polar View, a network of Canadian and European institutes and companies that offers integrated satellite remote-sensing monitoring and forecasting services for northern regions and the Antarctic.

Polar View provides an indispensable satellite-monitoring capability for a wide range of polar activities: valuable to everyone from the Inuit hunter who makes daily excursions to the sea ice-edge, to the engineer charged with optimizing designs of harsh environment structures, to the policy maker trying to understand the impacts of an ice-free northwest passage. It's a capability that supports improved decision-making and adaptation to climate change in the areas of environment, sustainable economic development, and safety. The Polar View program offers a one-stop-shop for geospatial (or large area) information on the north and the Antarctic such as the monitoring of ships and icebergs, glaciers, snow, and lake and river ice, as well as climate change indicators.

Prior to winning the contract to lead this forward-looking program, C-CORE developed an A-team of experts from Canada and Europe to run one of ESA's lead-up projects, Northern View.

"We worked very hard to get here," says Dr. Charles Randell, C-CORE's President and CEO. "We demonstrated not only technical excellence, but raised awareness of northern issues and the social, environmental and economic benefits of satellite-monitoring services." So when ESA decided to expand the polar monitoring program, C-CORE was the obvious choice. "Effectively, no one could compete with us because we had the best team in the world locked up," says Randell.

C-CORE is a world leader in satellite monitoring for a wide variety of practical applications. And in addition to its high-end technical capability, the corporation has proven international project management expertise. "When you have 30 different subcontractors from 10 countries that are from universities, government departments and private companies, there is an enormous diversity of culture," says Randell. "To get everyone pulling in the same direction, performing at a commercial service standard, addressing technology ownership and the contractual management of a multi-million dollar program involving five different currencies, requires vision, diplomacy and project management expertise, and we're doing it very successfully."

Meanwhile, with its enhanced international reputation, C-CORE is seeing other tangible results. "We're capitalizing on opportunities that probably would not have been available to us before landing the Polar View contract. We're now able to capture and build on these," says Randell.

Future Wave

www.cna.nl.ca/OAR/research.asp

When 14-year-old Sarah Graham put the finishing touches to her high school science project on alternative energy using ocean waves six years ago, she probably wasn't thinking about how it might one day be used in disaster relief or spawn a new aquaculture industry. Her father, on the other hand, became intrigued by the potential applications of ocean energy. Today Michael Graham and a team from the College of the North Atlantic (CNA) are creating quite the swell of enthusiasm both at home and abroad for this unique green technology.

A few years ago, Graham, administrator of CNA's Burin Peninsula campus, attended an aquaculture working group where discussion centered on the lack of suitable sites for new floating pen cod aquaculture. One participant commented that raising fish in man-made ponds would be ideal, but that the high cost of pumping clean seawater would limit the profitability of such a venture.

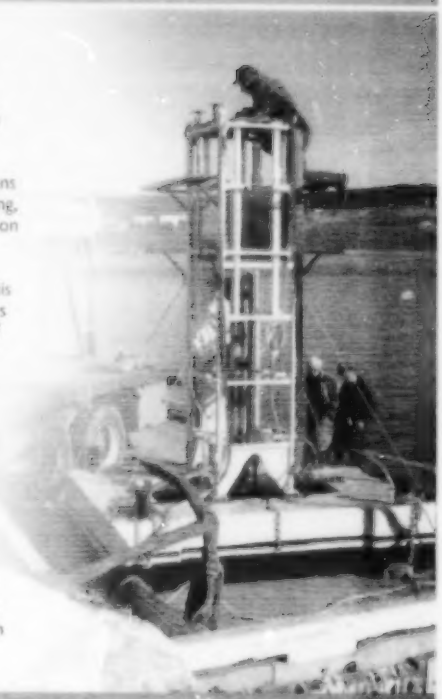
At that point, an idea surfaced for Graham. "I had a problem that could be solved if a sufficiently inexpensive energy source were available, and I knew of such a source," says Graham. "I only needed some sort of mechanism that would turn available ocean wave energy into pumped sea water."

Graham began working with experts from the college's faculty and together they developed a wave-powered pumping system prototype. The device, consisting of a float and a semi-submersible cylinder, uses the energy inherent in ocean waves to pump water ashore.

Graham anticipates many shore and platform-based applications for this innovative technology including aquaculture, firefighting, fish processing and the potential for electrical generation by-product.

Meanwhile, the team is exploring other opportunities for this robust, low-cost, wave-powered pump including polycultures (i.e. sustainable management of fish and shellfish in a series of tanks) and drinking water production through reverse osmosis and evaporative desalination for use in developing countries and in disaster relief situations.

While work on the prototype continues, including sea trials at Lord's Cove, Graham and his colleagues envisage a larger stage for the Burin Peninsula and this green technology. They are in the process of establishing a permanent research facility in the area. "There's no site in North America that I'm aware of, that is designed with all of the instrumentation for wave testing in the ocean," says Graham. The facility would be made available to other researchers interested in conducting field trials while availing themselves of the communications and data acquisition systems and weather station.



Scientists using unique founder population to cure diseases found all over the world

www.med.mun.ca/basic/pages/faculty/young.htm
www.newlabresearch.com

When geneticist Terry-Lynn Young returned to Newfoundland and Labrador after completing a post-doctoral fellowship at the University of Washington in Seattle, she had one goal. "I came with a mission to get things moving here," she says firmly. "What the big labs do is no different than what we can do here."

Funding from the Government of Newfoundland and Labrador, Genome Canada and other partners gave the assistant professor in Memorial University of Newfoundland's (MUN) Faculty of Medicine an opportunity to work on the Atlantic Medical Genetics and Genomics Initiative (AMGGI). Dr. Young is collaborating with Dr. Mark Samuels of Dalhousie University on the project, which aims to systematically identify genes and gene mutations that have a major impact on health. By the end of the extremely ambitious four-year study, Drs. Young and Samuels hope to find genetic sources for some of the major issues in modern health care including cancer and cardio-vascular disease. Samuels will study populations in the Maritimes and Young will concentrate on Newfoundland and Labrador.

Most of the people in Newfoundland and Labrador are descended from the original 10,000-20,000 settlers, and it's this unique founder population that makes it so valuable for genetic research. Though the work will be pertinent to the entire world, Young would especially like to see Newfoundland and Labrador benefit from it.

"It's important to make sure that the people in the province benefit from the research. The information should count in people's lives," she says.

That founder population has also been invaluable to Dr. Wayne Gulliver. The founder of NewLab Clinical Research Inc. was able to pinpoint the genes that cause psoriasis by analysing DNA from 200 families with a history of the disorder. That's about a tenth of the sample size needed in a population with a more diverse background. Now, in collaboration with researchers at MUN, he's working on a treatment not just for psoriasis but also for a variety of diseases that may be linked to psoriasis, including diabetes and Lupus. He plans to use the new proteomics laboratory scheduled to be built at MUN.

Dr. Gulliver wants to set up clinics across the province to test every individual with a history of psoriasis. In addition to the creation of a lot of employment outside of the capital region, the resultant discoveries could generate huge amounts of money through licensing the intellectual property to drug companies. That in turn could translate into millions of dollars injected into Newfoundland and Labrador's health care system.

"The implications are profound," Dr. Gulliver says.

Creating a Culture of Innovation

http://www.intrd.gov.nl.ca/intrd/Innovation/default.htm

"Our province was built by adventurous people who, of necessity, found innovative ways to survive," said Premier Danny Williams upon launching *Innovation Newfoundland and Labrador: A Blueprint for Prosperity*. "Today, innovation enhances economic growth and helps build an environment that attracts investment. We need a culture in which every individual learns to develop innovative solutions to the challenges we face."

The Government of Newfoundland and Labrador recognizes certain qualities as strategic signposts on a roadmap to increased prosperity and improved quality of life for the people of this province. It has embarked upon a course designed to encourage innovation in every area, from companies, colleges and universities to community organizations and citizens.

Take a creative-thinking, can-do attitude and an aptitude for taking risks, partner it with a ready-to-soar government program and you have a blueprint for a healthy and competitive economy.

To help craft the right climate for creative risk-takers, the government strategy maps out four strategic directions.

First is fostering a culture of innovation, encouraging new ways of doing things, and having confidence in the ability to succeed. Second is positioning the province as a competitive economy with internationally recognized strengths and advantages.

"We have strong capabilities in several key areas such as ocean technology and ICT (Information Communication & Technology)" says Dennis Hogan, Assistant Deputy Minister for Innovation, Research and Advanced Technologies and the province's Chief Innovation Officer. The strategy will also help boost the innovation performance of developing sectors such as life sciences and environmental technologies.

The third direction, says Hogan, is about having the right education and skills development mix, and working with education institutions and industry to ensure they are aligned with future economic directions and labour market needs.

Supporting research and development and improving investment to help turn ideas into products and services is the fourth critical direction.

"We didn't develop the strategy from a cold start," says Hogan, explaining that several government initiatives over the past two years have helped ensure an accelerated level of innovation in the province. The broadband initiative, for example, is expanding the province's telecommunication infrastructure, while the Industrial Research and Innovation Fund has helped Memorial University, among other institutes, leverage significant federal government and private sector research dollars.

Building on these and other initiatives, the province has earmarked $20 million over the next four years for programs that will help turn innovative ideas into reality.

"The Commercialization Program will provide additional funds to help companies with their market-ready innovations. It helps bridge the gap between research and commercialization," says Hogan. An Innovation Enhancement Program, aimed at public sector institutions, not-for-profit groups, community organizations and industry associations, will support institutional R&D, contribute to the growth of spin-off companies incubated at educational institutions, and nurture the development of innovation clusters.

"It's an exciting opportunity," says Hogan. "We need to succeed in a global economy and innovation is a key driver of that success."

Get Your e-News!

The company profiles you read in each issue of The Ambassador newsletter are just the tip of the proverbial iceberg. There's so much more happening in Newfoundland and Labrador, more than we can possibly fit into a newsletter. Simply send your e-mail address to ambassador@gov.nl.ca and we'll be happy to add you to the list for additional information.

Help spread the message!

Thank you for reading this edition of The Ambassador newsletter. We are always looking for ways to reach as many people as possible with the good news about business in Newfoundland and Labrador. If this copy of The Ambassador was mailed to you, please pass it along, or request extra copies so you can help spread the news. If you're reading someone else's copy of the newsletter, contact us and we will put you on our mailing list. See our contact information below.

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